

Promenade24

FX Type: **BASS FILTER**

Build Level: Beginner

Based On: EHX® Bass Balls™

Last Updated: November 21, 2024 4:24 PM

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The *2024 version* of the **Promenade** has no significant circuit changes and minor layout tweaks.

Overview

The **Promenade** is an envelope filter based on the EHX® Bass Balls™. I've included some of the mods suggested by Mark Hammer on the DIYSB forum. These mods give the builder more control over how the envelope behaves as well as the bass and treble frequency response.

This should be an easy project for most builders. There's nothing tricky, nothing to be tweaked to taste or in need of further modification, IMO. It sounds great on bass, baritone and guitar.

Controls

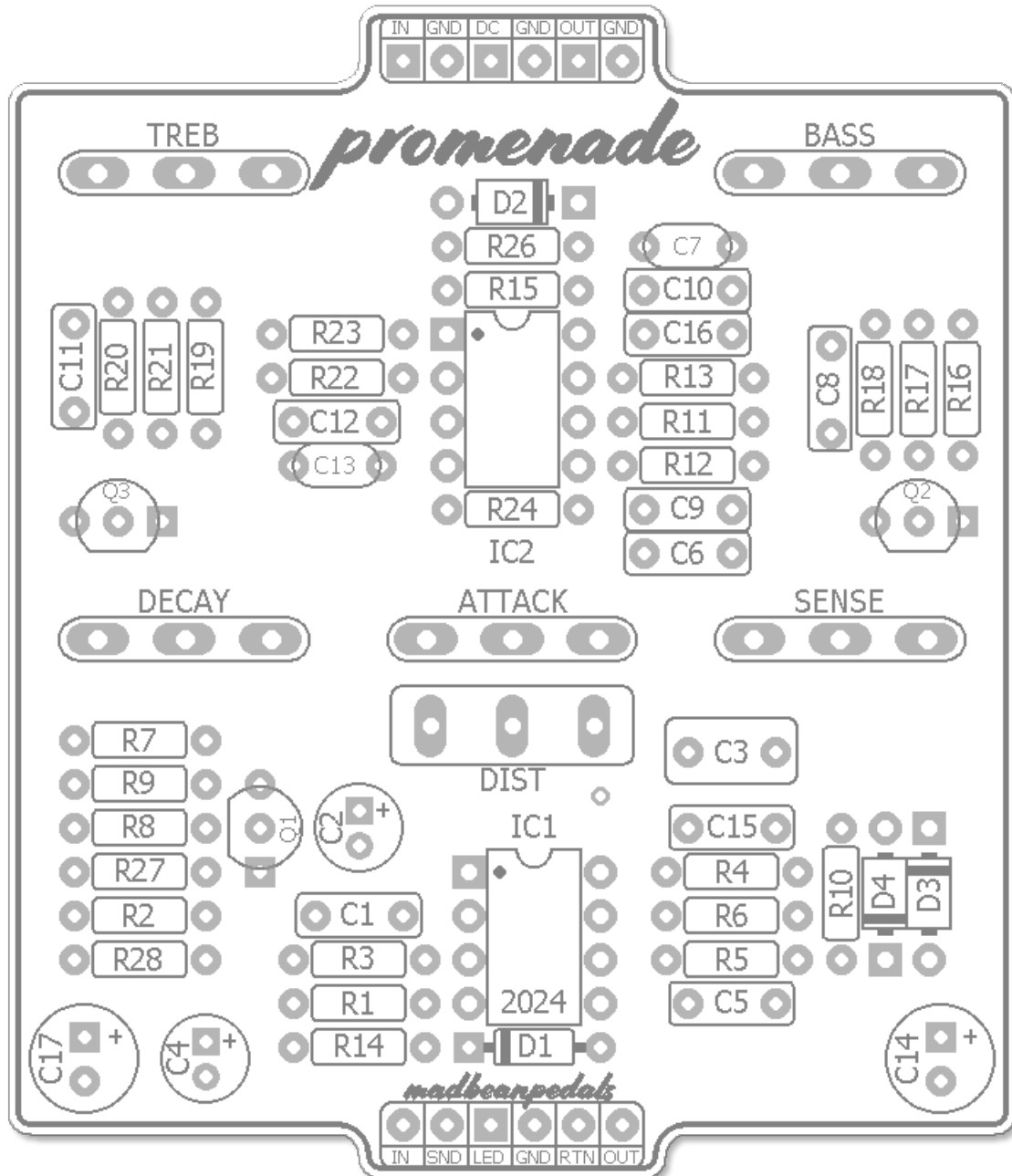
- **BASS, TREB:** Sets the frequency range of the swept filter for the low and high end.
- **SENSE:** The sensitivity of the envelope filter. This controls how much signal is used to trigger the envelope. There will be a couple of "sweet spots" depending on the instrument used (passive/active bass, etc).
- **ATTACK, DECAY:** These controls determine the overall shape of the envelope note. Turning them up will increase the attack of the envelope and make the decay of the envelope much longer. Attack, Decay and Sense all work together to offer a wide range of envelope control.
- **CLEAN/DIST:** Left position is clean signal out. Right position adds two silicon diodes to ground for some hard clipped distortion.

Terms of Use: You are free to use purchased **Promenade24** circuit boards for both DIY and small commercial operations. You may not offer **Promenade24** PCBs for resale or as part of a "kit" in a commercial fashion. Peer to peer re-sale is fine, though.

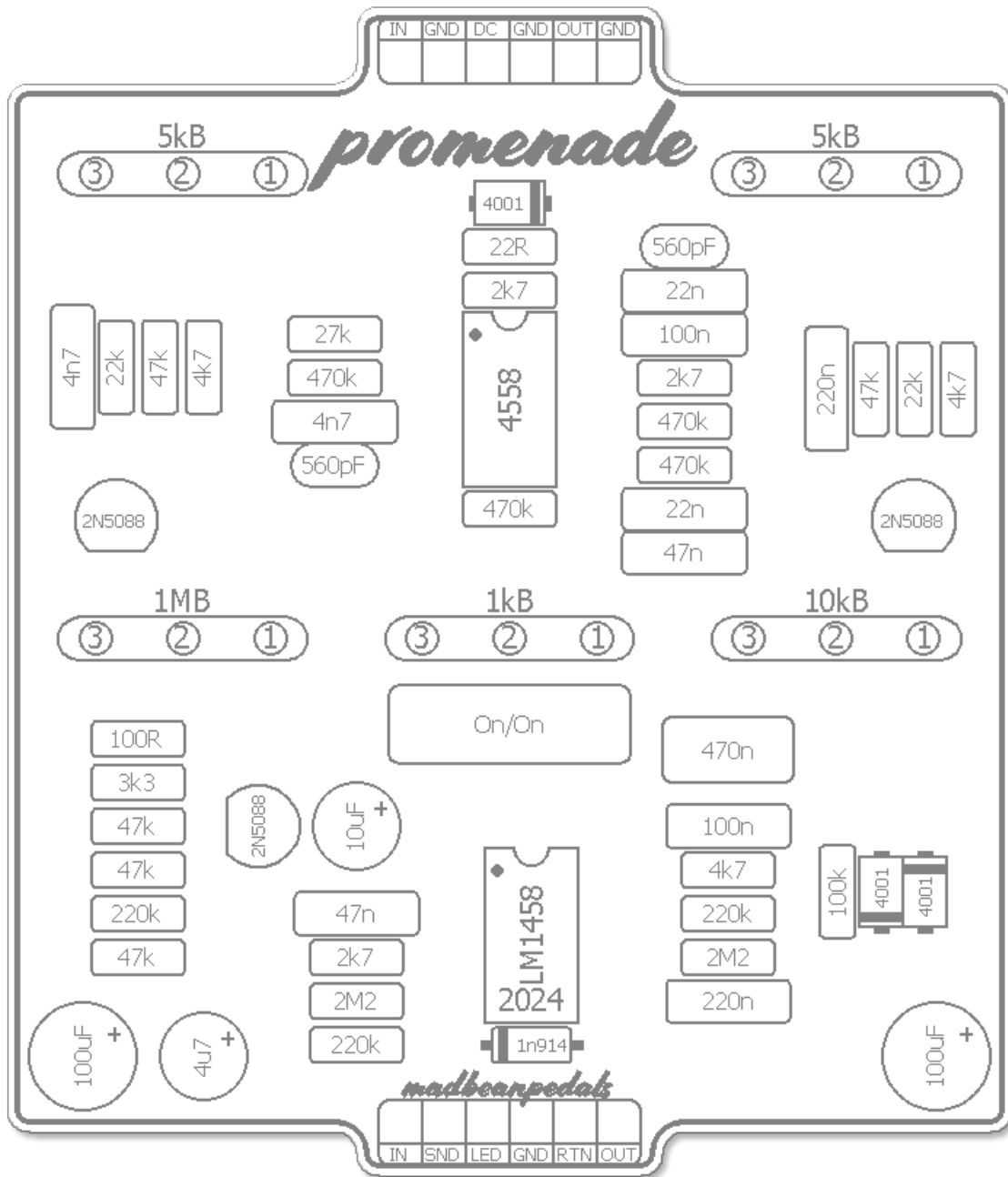
Technical assistance for is available via the [madbeanpedals forum](#). Please go there rather than emailing me for personal assistance. This is because (1) I'm not always available to respond via email in a timely and continuous manner, and (2) posting technical problems and solutions in the forum creates a record from which other members may benefit.

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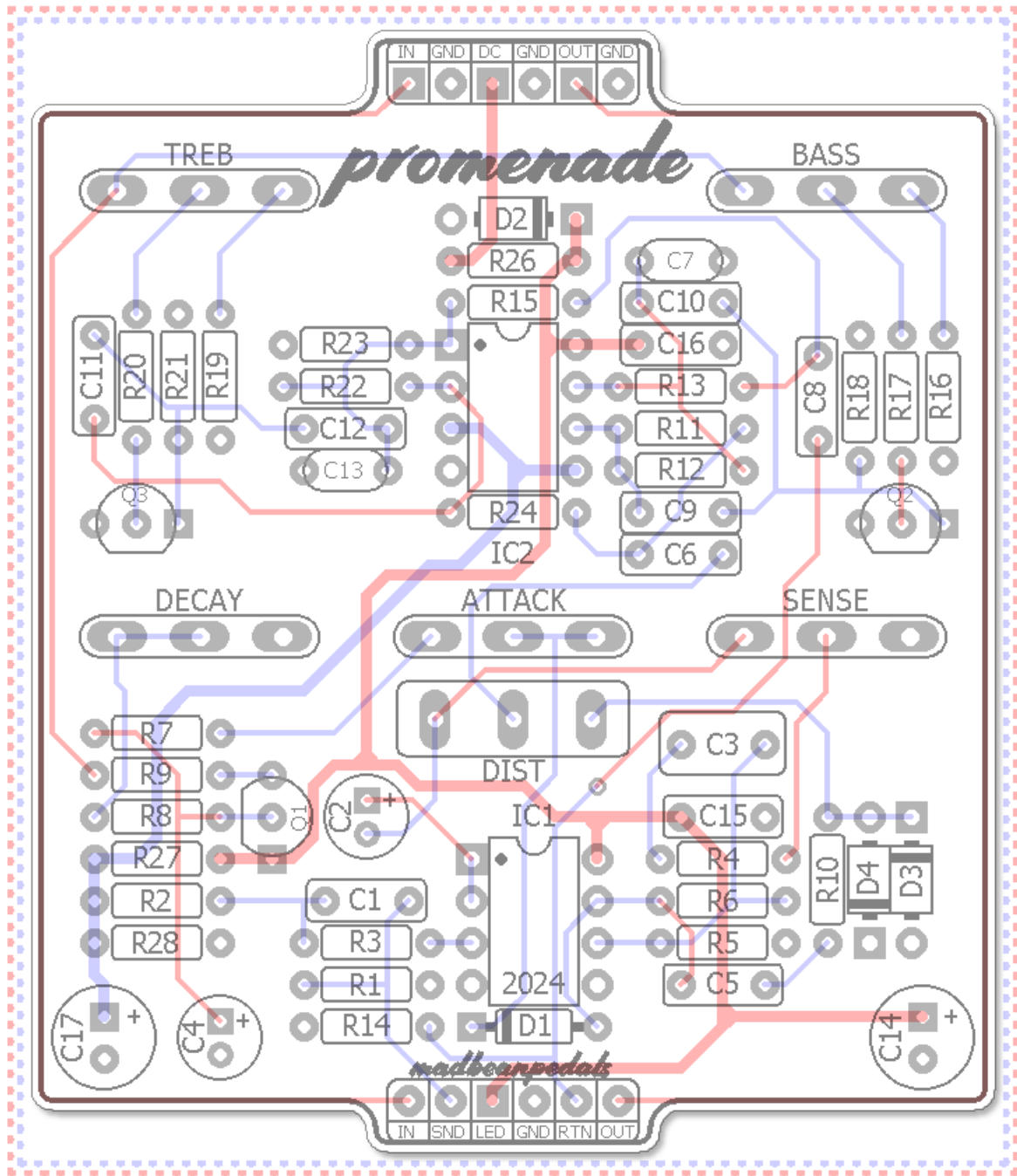
Parts Layout



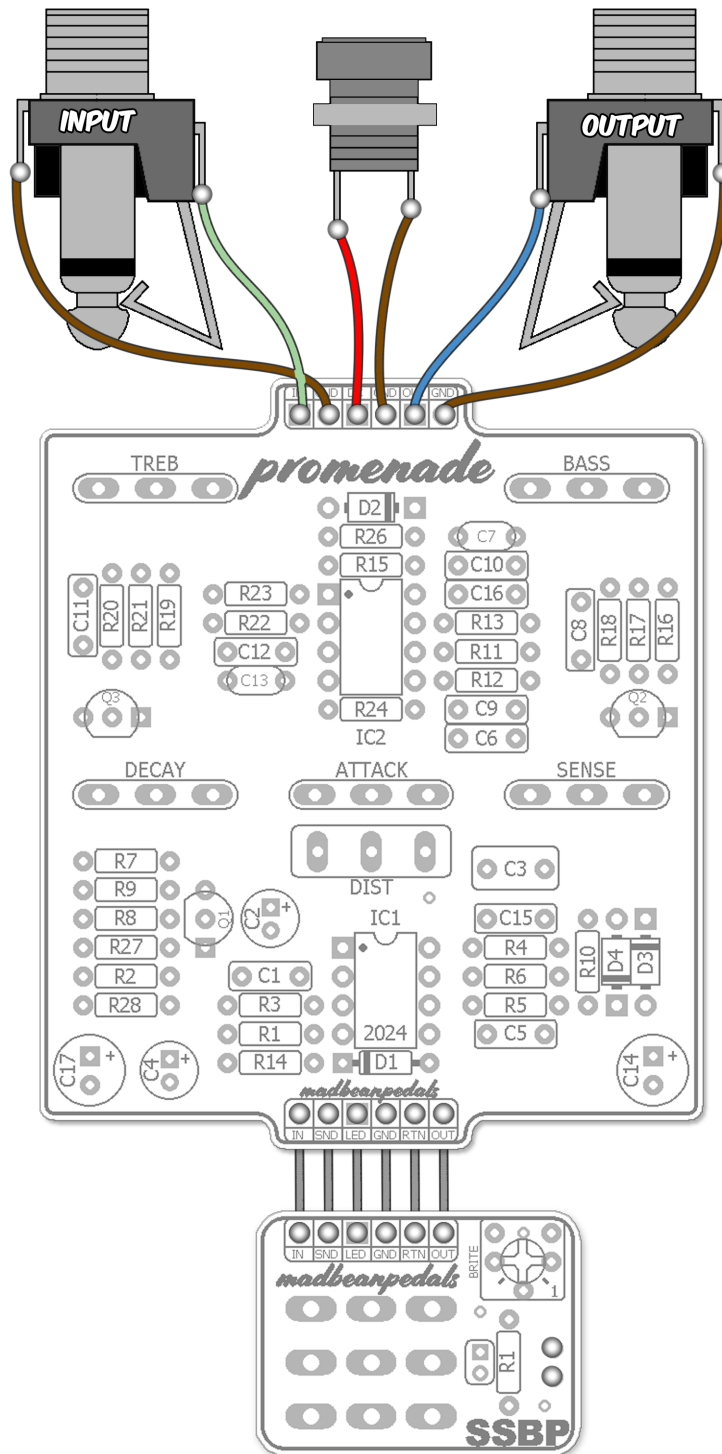
Component Values



Trace Layout



Wiring



The Promenade24 is compatible with both the **SSBP** and **SSABP** bypass boards available at madbeanpedals. The wiring is the same for both.

B.O.M.

| Resistors | | Caps | | Diodes | |
|-----------|------|------|-------|-------------|--------|
| R1 | 2M2 | C1 | 47n | D1 | 1n914 |
| R2 | 220k | C2 | 10uF | D2 | 1n4001 |
| R3 | 2k7 | C3 | 470n | D3 | 1n4001 |
| R4 | 4k7 | C4 | 4u7 | D4 | 1n4001 |
| R5 | 2M2 | C5 | 220n | Transistors | |
| R6 | 220k | C6 | 47n | Q1 | 2N5088 |
| R7 | 100R | C7 | 560pF | Q2 | 2N5088 |
| R8 | 47k | C8 | 220n | Q3 | 2N5088 |
| R9 | 3k3 | C9 | 22n | ICs | |
| R10 | 100k | C10 | 22n | IC1 | LM1458 |
| R11 | 470k | C11 | 4n7 | IC2 | 4558 |
| R12 | 470k | C12 | 4n7 | Switches | |
| R13 | 2k7 | C13 | 560pF | DIST | On/On |
| R14 | 220k | C14 | 100uF | Pots | |
| R15 | 2k7 | C15 | 100n | ATTACK | 1kB |
| R16 | 4k7 | C16 | 100n | BASS | 5kB |
| R17 | 22k | C17 | 100uF | TREB | 5kB |
| R18 | 47k | | | SENSE | 10kB |
| R19 | 4k7 | | | DECAY | 1MB |
| R20 | 22k | | | | |
| R21 | 47k | | | | |
| R22 | 470k | | | | |
| R23 | 27k | | | | |
| R24 | 470k | | | | |
| R26 | 22R | | | | |
| R27 | 47k | | | | |
| R28 | 47k | | | | |

Shopping List

| Value | QTY | Type | Rating |
|--------|-----|---------------------|----------|
| 22R | 1 | Carbon / Metal Film | 1/4W |
| 100R | 1 | Carbon / Metal Film | 1/4W |
| 2k7 | 3 | Carbon / Metal Film | 1/4W |
| 3k3 | 1 | Carbon / Metal Film | 1/4W |
| 4k7 | 3 | Carbon / Metal Film | 1/4W |
| 22k | 2 | Carbon / Metal Film | 1/4W |
| 27k | 1 | Carbon / Metal Film | 1/4W |
| 47k | 5 | Carbon / Metal Film | 1/4W |
| 100k | 1 | Carbon / Metal Film | 1/4W |
| 220k | 3 | Carbon / Metal Film | 1/4W |
| 470k | 4 | Carbon / Metal Film | 1/4W |
| 2M2 | 2 | Carbon / Metal Film | 1/4W |
| 560pF | 2 | Ceramic / MLCC | 16v min. |
| 4n7 | 2 | Film | 16v min. |
| 22n | 2 | Film | 16v min. |
| 47n | 2 | Film | 16v min. |
| 100n | 2 | Film | 16v min. |
| 220n | 2 | Film | 16v min. |
| 470n | 1 | Film | 16v min. |
| 4u7 | 1 | Electrolytic | 16v min. |
| 10uF | 1 | Electrolytic | 16v min. |
| 100uF | 2 | Electrolytic | 16v min. |
| 1n914 | 1 | | |
| 1n4001 | 3 | | |
| 2N5088 | 3 | | |
| LM1458 | 1 | | |
| 4558 | 1 | | |
| SPDT | 1 | On/On, Solder Lug | |
| 1kB | 1 | PCB Right Angle | 16mm |
| 5kB | 2 | PCB Right Angle | 16mm |
| 10kB | 1 | PCB Right Angle | 16mm |
| 1MB | 1 | PCB Right Angle | 16mm |

Additional Hardware

- (1) 125B enclosure
- (2) 1/4" mono jacks
- (1) Slim 2.1mm DC jack
- (1) Standard 3PDT footswitch
- (1) 5mm LED

Build Notes

- none!

Circuit Voltages

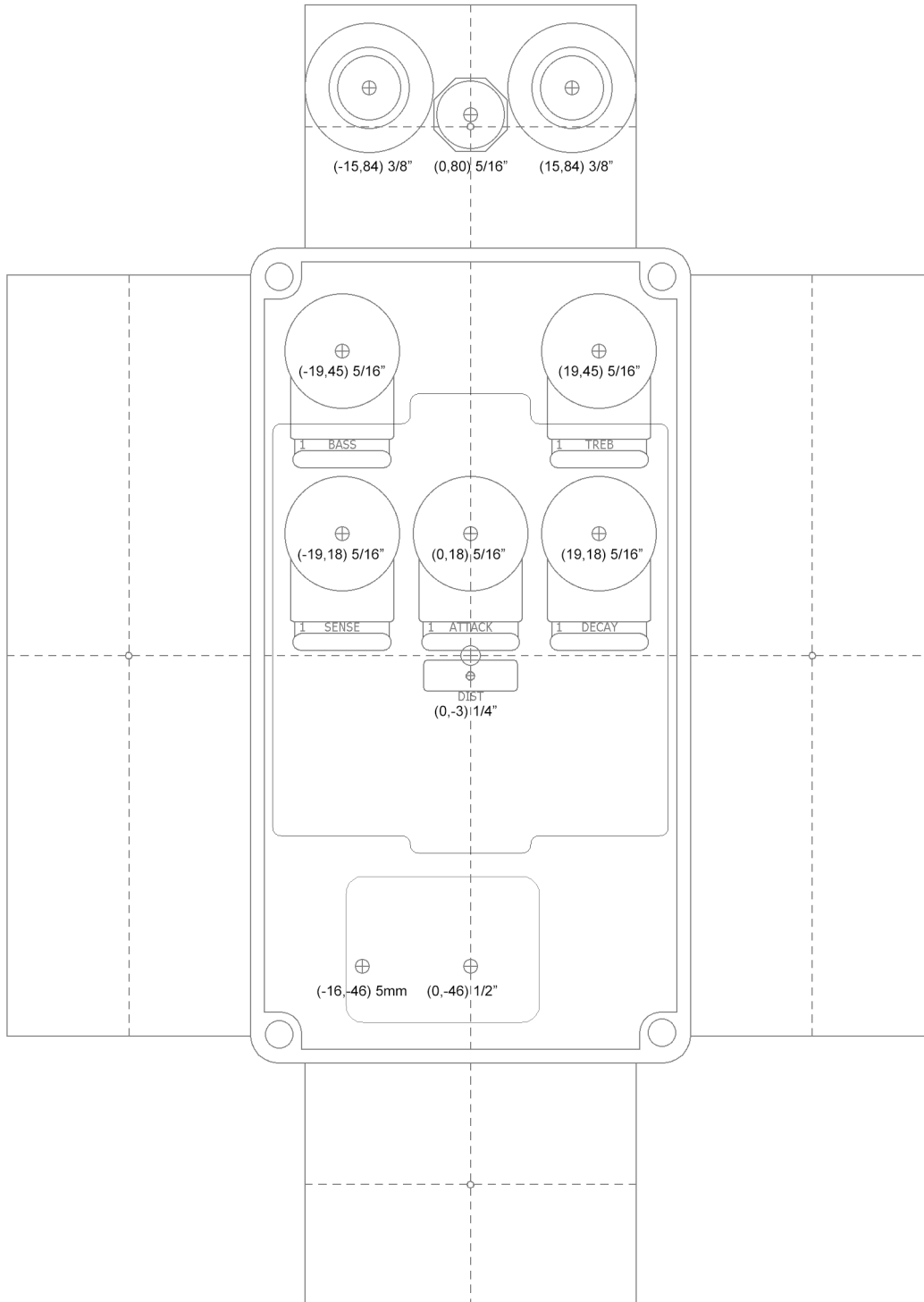
| IC1 | LM1458 | Q1 | 2n5088 |
|-----|--------|----|--------|
| 1 | 4.69 | C | 9.4 |
| 2 | 4.69 | B | 1.71 |
| 3 | 4.59 | E | 1.14 |
| 4 | 0 | Q2 | 2n5088 |
| 5 | 0 | C | 4mV |
| 6 | 1.89 | B | 425mV |
| 7 | 2 | E | 0 |
| 8 | 9.4 | Q3 | 2n5088 |
| IC2 | 4558 | C | 4mV |
| 1 | 4.69 | B | 475mV |
| 2 | 4.7 | E | 0 |
| 3 | 4.69 | | |
| 4 | 0 | | |
| 5 | 4.69 | | |
| 6 | 4.69 | | |
| 7 | 4.68 | | |
| 8 | 9.4 | | |

- 9.42vDC One Spot
- Current Draw ~ 4mA

Drill Template

Coordinates are denoted in **(X,Y)**, **drill size** format starting from the center (0,0) location of the enclosure.

Tayda drill template: https://drill.taydakits.com/box-designs/new?public_key=QjQ0MmxPZ2ZERU9BMyt1WnVkWmt2QT09Cg==

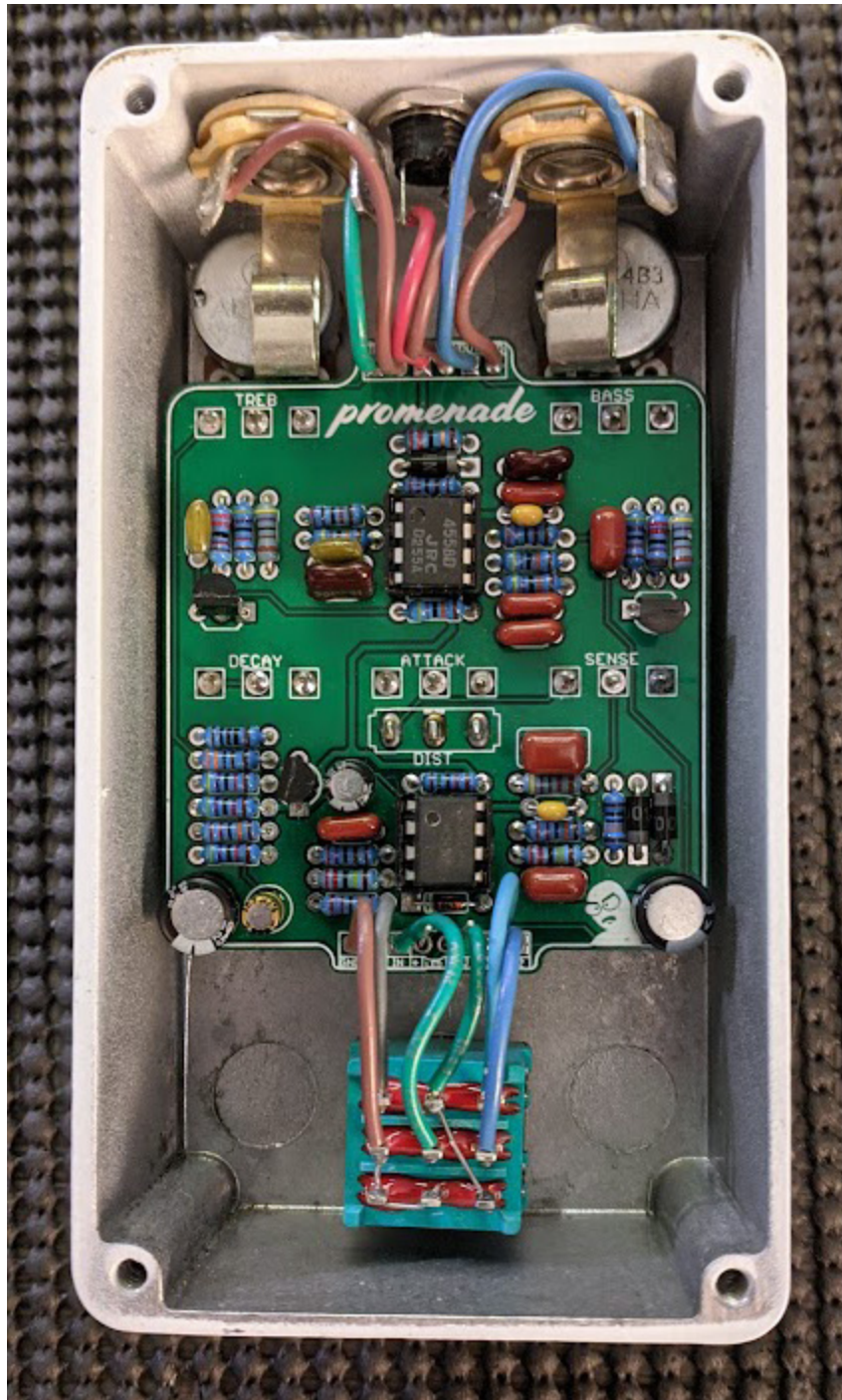


Hardware

125B enclosure
Mono jacks
Slim 2.1mm DC jack
Standard 3PDT footswitch
5mm LED

NOTE: Different 1/4" and DC jack styles may require different sized drill holes.

Build Pic



Previous version build.

Schematic

